

REMARKS

New claims 13-20 have been added. Support for the new claims can be found throughout the specification, for example at page 8, lines 17-24 and page 6, lines 4-16. No new matter has been added. Claims 6 has been amended more clearly claim the subject matter and claim 9 has been amended to correct typographical errors. Support for the amendments can be found in the specification at page 3, lines 14-16. Claims 1-20 are pending. Claims 1 and 10-12 are independent.

Rejections under 35 U.S.C. § 112, first paragraph

Claim 6 has been rejected under 35 U.S.C. § 112, first paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention. See Office Action at page 2. Claim 9 has been rejected under this clause because the claim from which it depends is unclear. Claim 6 has been amended to more clearly claim the subject matter. Claim 9 has been amended to remove typographical errors. Claims 6 and 9 are now believed to be in allowable form. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejection Under 35 U.S.C. § 102(b)

Claim 1 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,938,851 to Moshtagh ("Moshtagh"). See Office Action at page 1.

Applicants have discovered a chemical vapor deposition system including a housing that defines an enclosed deposition chamber and includes a lower portion and an upper portion having a horizontal junction with each other. The system also includes a seal assembly that extends between the lower and upper housing portions at their horizontal junction. See independent claim 1.

The Examiner asserts that Moshtagh includes each and every element of claim 1. See Office Action at pages 2-3. Applicants respectfully disagree. Moshtagh lacks many of the features of claim 1. For example, Moshtagh does not include a seal assembly that extends between the lower and upper housing portions at their horizontal junction. The Examiner asserts that in Moshtagh Figure 2 has an upper and lower housing portion with a horizontal junction at flange 74 and an unnumbered flange below 74 and that these two portions of this horizontal

junction also make up the seal assembly of Applicants' discovery. See Office action at page 2. Moshtagh does not describe a junction of portions of a housing. In fact, the junction that the Examiner has identified is not a junction between two parts of a housing, it is really just the part of Moshtagh where the airflow connects to the system for removing particulate matter from the entering and exiting substrate. See Moshtagh at column 5, lines 11-13. This is not a housing that defines a chamber as in Applicants' invention. Respectfully, this horizontal separation does not represent an upper and lower housing that defines an enclosed deposition chamber.

In addition, Moshtagh fails to describe a seal assembly that extends between the housing's upper and lower portions at their horizontal junction. There is no seal described in Moshtagh or indicated in Moshtagh's drawings at the Examiner-identified junction. Furthermore, there is no seal assembly described or shown in the drawings of Moshtagh, let alone one that extends between a housing's upper and lower portions at their horizontal junction. Moshtagh does not describe a seal assembly that extends between the housing's upper and lower portions at their horizontal junction.

Accordingly, claim 1 is not anticipated by Moshtagh. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejection Under 35 U.S.C. § 103(a)

Claims 2-12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Moshtagh in view of combinations of U.S. Patent No. 4,558,660 to Nishizawa *et al.* ("Nishizawa"), U.S. Patent No. 5,368,648 to Sekizuka *et al.* ("Sekizuka"), U.S. Patent No. 5,614,249 to Mayeda ("Mayeda"), U.S. Patent No. 4,040,372 to Flanders ("Flanders"), U.S. Patent No. 4,591,374 to Klemola ("Klemola"), U.S. Patent No. 3,541,293 to MacDonald *et al.* ("MacDonald"), and U.S. Patent No. 5,028,250 to Deb *et al.* ("Deb"). Claims 2-9 depend from independent claim 1. Claims 10, 11 and 12 are each independent.

Independent Claims 1, 10, 11, and 12 and the claims that depend therefrom

Each of the independent claims features a chemical vapor deposition system including a housing that defines a deposition chamber and includes a lower portion and an upper portion having a horizontal junction with each other and a seal assembly that extends between the lower and upper housing portions at their horizontal junction. See independent claims 1, 10, 11 and 12. The Examiner asserts that Moshtagh teaches a housing that defines a deposition chamber and

includes a lower portion and an upper portion having a horizontal junction with each other and a seal assembly that extends between the lower and upper housing portions at their horizontal junction. Applicants respectfully disagree. There is nothing in the drawings or specification or claims of Moshtagh that teaches, suggests, or motivates one of ordinary skill in the art to provide a housing that defines an enclosed deposition chamber and includes a lower portion and an upper portion having a horizontal junction with each other and a seal assembly that extends between the lower and upper housing portions at their horizontal junction. The Examiner attempts to create a seal and a seal assembly from flange 74 and an unnumbered item that is adjacent to the flange. See Office Action at page 2. Flange 74 is used to attach the vent assembly to the CVD system in Moshtagh not to provide a seal assembly. See column 5, lines 12-17. Thus, Moshtagh fails to teach or suggest a housing that defines a deposition chamber and includes a lower portion and an upper portion having a horizontal junction with each other and a seal assembly that extends between the lower and upper housing portions at their horizontal junction.

Nishizawa, Sekizuka, Mayeda, Flanders, Klemola, MacDonald, and Deb each fail to cure the deficiencies of Moshtagh. Nishizawa teaches an apparatus for fabricating semiconductor wafers at a low temperature using epitaxial growth, chemical vapor deposition, thermal oxidation or nitridation combined with UV and infrared irradiation of the wafer surfaces and the atmosphere. See Nishizawa at column 1, lines 49-48. Sekizuka teaches the middle portion between two metal sealing members being evacuated to a vacuum. See Sekizuka at column 2, lines 40-47. Mayeda teaches a leak detection system for detecting leaks in a gas manifold of a CVD apparatus. See Mayeda at column 2, lines 20-24. Flanders teaches a method for detachably assembling together the sections of a storage and shipping barrel. See Flanders at column 2, lines 52-64. Klemola teaches an apparatus for equalizing the temperature of conveyor rolls in a glass furnace. See Klemola at Abstract. MacDonald teaches a muffle furnace having a unitary core supporting a readily replaceable heating unit. See MacDonald at Abstract. Deb teaches a tunnel type heating furnace for heating glass sheets. See Deb at Abstract. None of these references, alone or in combination teaches or suggests including a housing that defines an enclosed deposition chamber and includes a lower portion and an upper portion having a horizontal junction with each other and a seal assembly that extends between the lower and upper housing portions at their horizontal junction.

Finally, no motivation to combine the references has been provided by the Examiner. The Examiner has failed to establish a *prima facie* case of obviousness. The Examiner appears to be using hindsight to reconstruct Applicants' patent from prior art with no motivation provided for combining the references. The Federal Circuit has made it clear that obviousness cannot be established simply by stitching together pieces of prior art using the patent as a template. Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1143 (Fed. Cir. 1985); see also Loctite Corp. v. Ultraseal Ltd., 781 F.2d 861, 873 (Fed. Cir. 1985) (denouncing courts' tendency to depart from proper standard of nonobviousness "to the tempting but forbidden zone of hindsight."); In re Fine, 837 F.2d 1071, 1075 (Fed. Cir. 1988) ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."); In re Dembicza, 175 F.3d 994, 999 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."). The cited references must provide some suggestion, motivation, or teaching for combining known components. See Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc., 21 F.3d 1068, 1072, 30 USPQ2d 1377, 1379 (Fed.Cir.1994) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination."); C.R. Bard, Inc. v. M3 Systems, Inc., 157 F.3d 1340 (Fed. Cir. 2000). The requisite motivation to combine the references in this case has not been provided. Thus, the Examiner has not presented a *prima facie* case of obviousness.

For at least these reasons claim 1, 10, 11 and 12 and the claims that depend therefrom are patentable over Moshtagh combined with any of Nishizawa, Sekizuka, Mayeda, Flanders, Klemola, MacDonald, or Deb. Applicants respectfully request reconsideration and withdrawal of the obviousness rejections.

New Claims

New claims 13-20 feature the chemical vapor deposition system described in the specification and in claims 1-12. These new claims are also patentable over the references, and combinations thereof, described in this Office Action because at the very least they include one or more of the distinguishing characteristics previously discussed.

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CONCLUSION

Applicants respectfully request that all claims be allowed.